

WHAT IS CLAIMED IS:

1. A position control method by motor drive comprising:

rotating a rotor of said motor according to the given target opening, and detecting the opening of a movable vane by an encoder, said motor opening and shutting

5 a passage of an intake air pipe to a turbo charger of the automobile by the movable vane, and

controlling the movable vane in the passage of said intake air pipe so that it may reach the target opening,

wherein

10 the rotational position of the motor is controlled to the stop position in the direction where said movable vane is closed and the stop position in the direction where said movable vane is opened, and

the motor is controlled so that the passage of the intake air pipe may become the target opening by setting said stop position as an operation reference position of said

15 motor, and setting between said stop positions as driving dynamic range of said motor.

2. A position control method by motor drive according to claim 1, wherein the operation which obtains the operation reference position of said motor is executed at power-on or when the ignition switch is turned on or turned off.

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3. A position control method by motor drive according to claim 1, wherein said motor is driven in a direction where the pipe to said turbo charger is opened and the direction where said pipe is shut by the driving force provided beforehand so that sticking at the stop position can be avoided, and

When the time that the signal of the encoder which detects said opening does not change elapses the predetermined time, the positions of said encoder are set as a reference position for full open operation and a reference position for full close operation.

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4. A position control method by motor drive according to claim 1, wherein the control of revolution of the motor to the stop position in the direction where said movable vane is shut and the stop position in the direction where said movable vane is opened is executed when the ignition switch is off.

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5. A position control method by motor drive according to claim 1, wherein the PID control is executed with the target opening changed into an open direction of the movable vane one by one, and the opening position is set as a stop position in an open direction of said movable when the state that the opening position counted by said encoder does not change continues during the predetermined time.

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6. A position control method by motor drive according to claim 1, wherein the PID control is executed with the target opening changed into an close direction of the movable vane one by one, and the opening position is set as a stop position in an close direction of said movable when the state that the opening position counted by said encoder does not change continues during the predetermined time.

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7. A position control unit by motor drive comprising:
a control unit including an interface circuit, a central processing unit and a

motor driver which drives a motor according to a target opening signal; and

a motor rotational position detecting unit provided on an output shaft of the motor; and

an adjustable link united with output shaft of the motor, which controls the opening and shutting of a movable vane in an intake air pipe to a turbocharger of an automobile according to the revolution of the motor;

wherein

said motor is rotated to the stop position of said turbocharger in a direction where the intake air pipe is shut and the stop position in a direction where the intake air pipe is opened by the motor drive, and the position between said stopper positions is set as an operation reference position when said motor works.